

CLAIMS

1. (Currently Amended) A transmitter for a controlled-shape switched signal on a communication line comprising signal generator means including capacitor means and signal producing means responsive to a capacitor voltage across said capacitor means for applying said switched signal to said line, and charging means responsive to an input signal for supplying a charging current to said capacitor means so as to define an edge of said switched signal,

characterized in that said charging means comprises feedback loop means responsive to said capacitor voltage for generating a feedback current having a continuous magnitude that is a progressive function of said capacitor voltage, said charging current being a function of said feedback current so that the rate of change of said capacitor voltage is a continuous function of time, said feedback loop means comprises first and second feedback loop elements for generating first and second feedback voltages whose magnitudes are respective functions of said capacitor voltage and selection means for generating said feedback current first as a function of a selected one of said first and second feedback voltages and subsequently as a function of the other of said feedback voltages.

2. (Cancelled)

3. (Currently Amended) A transmitter as claimed in claim 1, wherein one of said first and second feedback voltages is a rising function of said capacitor voltage and the other is a falling function of said capacitor voltage, so that the rate of change of said feedback current increases with time while said one of said first and second feedback voltages is selected and decreases with time while said other of said first and second feedback voltages is selected.

4. (Currently Amended) A transmitter as claimed in claim 1, wherein said feedback loop means comprises clamp means for maintaining said feedback current at a limit

value such that said charging current and said capacitor voltage vary substantially as linear functions of time for a part of said edge of said switched signal.

5. (Currently Amended) A transmitter as claimed in claim 1, wherein said selection means is responsive to the relative magnitudes of said first and second feedback voltages to select one of said first and second feedback voltages.

6. (Previously Presented) A transmitter as claimed in claim 1, wherein said rate of change of said feedback current is arranged to be a function of said capacitor voltage such that said capacitor voltage varies substantially as an exponential function of time, at least for a part of said edge of said switched signal.

7. (Currently Amended) A transmitter ~~as claimed in claim 1,~~ for a controlled-shape switched signal on a communication line comprising signal generator means including capacitor means and signal producing means responsive to a capacitor voltage across said capacitor means for applying said switched signal to said line, and charging means responsive to an input signal for supplying a charging current to said capacitor means so as to define an edge of said switched signal, wherein said charging means comprises feedback loop means responsive to said capacitor voltage for generating a feedback current having a continuous magnitude that is a progressive function of said capacitor voltage, said charging current being a function of said feedback current so that the rate of change of said capacitor voltage is a continuous function of time, wherein said charging means is selectively responsive to said input signal for supplying a positive or a negative charging current to said capacitor means, whereby to generate a rising edge or a falling edge of said switched signal.

8. (Currently Amended) A transmitter ~~as claimed in claim 1,~~ for a controlled-shape switched signal on a communication line comprising signal generator means including capacitor means and signal producing means responsive to a capacitor voltage across said capacitor means for applying said switched signal to said line, and charging means

responsive to an input signal for supplying a charging current to said capacitor means so as to define an edge of said switched signal,

characterized in that said charging means comprises feedback loop means responsive to said capacitor voltage for generating a feedback current having a continuous magnitude that is a progressive function of said capacitor voltage, said charging current being a function of said feedback current so that the rate of change of said capacitor voltage is a continuous function of time, wherein said charging means comprises resistive means for receiving a voltage that is a function of said capacitor voltage for generating said feedback current.

9. (Previously Presented) A transmitter as claimed in claim 8, wherein said charging means comprises means for modifying said resistive means so as to modify the rates of change of said feedback current and said charging current.

10. (Currently Amended) ~~A transmitter as claimed in claim 1,~~ for a controlled-shape switched signal on a communication line comprising signal generator means including capacitor means and signal producing means responsive to a capacitor voltage across said capacitor means for applying said switched signal to said line, and charging means responsive to an input signal for supplying a charging current to said capacitor means so as to define an edge of said switched signal,
characterized in that said charging means comprises feedback loop means responsive to said capacitor voltage for generating a feedback current having a continuous magnitude that is a progressive function of said capacitor voltage, said charging current being a function of said feedback current so that the rate of change of said capacitor voltage is a continuous function of time, wherein said capacitor voltage varies substantially as a sinusoidal half-cycle having a single frequency to define said edge of said switched signal.

11. (New) A transmitter as claimed in claim 7, wherein said capacitor voltage varies substantially as a sinusoidal half-cycle having a single frequency to define said edge of said switched signal.

12. (New) A transmitter as claimed in claim 1, wherein said charging means is selectively responsive to said input signal for supplying a positive or a negative charging current to said capacitor means, whereby to generate a rising edge or a falling edge of said switched signal.

13. (New) A transmitter as claimed in claim 1, wherein said charging means comprises resistive means for receiving a voltage that is a function of said capacitor voltage for generating said feedback current.

14. (New) A transmitter as claimed in claim 1, wherein said capacitor voltage varies substantially as a sinusoidal half-cycle having a single frequency to define said edge of said switched signal.

15. (New) A transmitter as claimed in claim 7, wherein said charging means comprises resistive means for receiving a voltage that is a function of said capacitor voltage for generating said feedback current.

16. (New) A transmitter as claimed in claim 8, wherein said capacitor voltage varies substantially as a sinusoidal half-cycle having a single frequency to define said edge of said switched signal.